

**A PROBABLE NURSERY GROUND OF SILVERPOMFRET  
PAMPUS ARGENTEUS (EUPHER) OFF NAWABUNDER (GUJARAT)**

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**ABSTRACT**

Large quantities of small-sized silverpomfret, *Pampus argenteus* (Eupher), mostly in the size range of 20-99 mm, were caught in dol net at Nawabunder over a number of months in 1979-80 and 1980-81 fishing seasons. The estimated catch being 50.7 and 40.7 tonnes, respectively, the inshore area off Nawabunder seems to form an important nursery ground for silverpomfret. The need for appropriate regulatory measures on dol-net fishing in these grounds, therefore, is indicated.

During the course of investigations on the Bombay duck fishery along the Sourashtra coast, large numbers of juveniles of silverpomfret *Pampus argenteus* were found landed by dol nets, between Diu and Jaffrabad. The destructive nature of this gear has already been commented on by Pillay (1948 a), Bapat et al (1973) and Zafar Khan (1980). The occurrence of juveniles of *P. argenteus* has also been noted by Pillay (1948 a & b), Gokhale and Goplan (1967).

The dol-net fishery along the Saurashtra coast is confined to a narrow belt of 45 km, at a depth of 15-35 meters. The mesh size of the net is 15-20 mm at cod end (Zafar Khan, MS). There are 3 major fishing centres, viz, Jaffrabad, Rajpara and Nawabunder. Though the youngones of silverpomfret are landed at all the three centres, the present account is based on the regular data collected from Nawabunder during 1978-81 and 1980-81. There were 145 units operating during the period.

*P. argenteus* forms about 0.3-0.5% of the dol-net landings at Nawabunder. The data on fishing effort and estimated catch for 1979-80 and 1980-81 are given in Table 1. An estimated 58,032 hauls were made during 1979-80 by which 50.7 tonnes of *P. argenteus* were landed, at the catch rate of 0.874 kg. During second season 40.7 tonnes were landed, at a lesser rate of 0.417 kg, with an effort of 86.332 hauls.

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TABLE 1. Effort, catch, size range and estimated number and weight in kg of different size groups of *P. argenteus* in dol-net at Nawabunder during (1979-81).

	No of hauls	Catch in Kg	Size range in mm	20-99 mm Number (Weight)	100-199 mm Number (Weight)	200 mm & above Number (Weight)
<b>1979—80</b>						
Sep	5,448	11,502	60-309	6,59,574 (4197)	39,666 (3338)	8,250 (3967)
Oct	8,312	11,417	30-299	12,34,680 (2047)	66,400 (4529)	8,984 (4841)
Nov	3,750	765	—	—	—	—
Dec	11,424	6,264	—	—	—	—
Jan	9,093	5,572	20-209	1,93,585 (1147)	47,362 (3843)	2,163 (582)
Feb	4,808	1,368	70-179	4,136 (85)	26,844 (1283)	—
Mar	3,359	2,360	20-89	5,38,803 (2360)	—	—
Apr	8,892	3,653	60-159	51,337 (796)	69,238 (2857)	—
May	2,946	7,800	70-139	2,34,864 (3362)	1,95,024 (4418)	—
<b>Total</b>	<b>58,032</b>	<b>50,701</b>	<b>20-309</b>	<b>29,16,979</b> <b>(14014)</b>	<b>4,44,534</b> <b>(20268)</b>	<b>(19,397)</b> <b>(9390)</b>
<b>1980—81</b>						
Sep	3,339	1314	60-119	84,645 (1248)	1,584 (66)	—
Oct	7,705	581	50-149	9,340 (135)	9,058 (446)	—
Nov	8,300	4610	70-249	6,381 (104)	73,685 (3751)	1,586 (755)
Dec	16,416	4005	60-149	76,654 (1414)	48,920 (2991)	—
Jan	14,056	3656	50-279	9,944 (89)	45,448 (3283)	1512 (284)
Feb	12,525	3808	20-229	3,84,588 (2490)	8,979 (900)	1,438 (418)
Mar	13,375	2520	40-99	2,32,961 (2520)	—	—
Apr	6,416	9104	60-69	6,85,698 (9104)	—	—
May	4,200	11097	50-299	1,37,015 (1905)	1,13,697 (6312)	6,135 (2880)
<b>Total</b>	<b>86,332</b>	<b>40695</b>	<b>20-299</b>	<b>16,27,226</b> <b>(19009)</b>	<b>3,01,371</b> <b>(17349)</b>	<b>9,671</b> <b>(4337)</b>

The higher catch rate was observed in Sept.-Oct. and May (1.374-2.648 kg.) during 1979-80, whereas it was in April-May (1.419-2.642 kg.) (Table 2) during the second season.

The other two main fishing centres of the area, viz, Jaffrabad and Rajapara, produced about 19.3 and 57.9 tonnes (Table 2), respectively, during 1980-81 at the catch rate of 0.498 and 0.243 kg. The poor landing at Jaffrabad is due to shorter fishing season.

TABLE 2. Effort and catch of *P. argenteus* in dol net at Rajpara and Jaffrabad during 1980-1981.

	Rajpara		Jaffrabad	
	No. of hauls	Catch in Kg	No. of hauls	Catch in kg
Sep	567	133	120	—
Oct	13,051	6136	14,533	6465
Nov	25,833	13796	27,599	9217
Dec	28,049	9633	26,116	2078
Jan	2,596	1265	11,100	1600
Feb	7,964	1463	—	—
Mar	21,840	11288	—	—
Apr	11,233	6908	—	—
May	5,227	7327	—	—
Total	1,16,360	57949	79,468	19340

An estimated number of 33,80,910 *P. argenteus*, in the size range of 20-209 mm to 300-309 mm, were landed at Nawabundar during 1970-80. The small-sized fish, between 20-99 mm, though weighing only 14014 kg, comprised of 86.3% of the catch, whereas the fish in the size range of 100-199 mm and above 200 mm formed about 13.1% and 0.6%, weighing 20,268 kg and 9390 kg, respectively.

During 1980-81 estimated 19,38,268 number of *P. argenteus* were landed in the size range of 20-29 mm to 290-299 mm. The small-sized fish in the size range of 20-99 mm formed about 84% of the catch, weighing 19009 kg, whereas the fish in the size range of 100-199 and above 200 mm formed about 15.5% and 0.5%, weighing 17349 kg and 4337 kg, respectively.

It is evident from the size distribution of the fish that, though young ones are present throughout the year, large number of these, however, enter the fishery during January-March and September-October. The dominant modes were always

below 119 mm during 1979-80. The mode presented at 40-49 mm during January had progressed to 90-99 mm in May, indicating a growth of 50 mm in four months. During second fishing season the mode present at 80-89 mm in September had progressed to 140-149 mm by February, registering a growth of 60 mm in five months. Another mode noticed at 60-69 mm in February had shifted to 80-89 mm by April.

Pillay, as far back as 1948, pointed out the destructive nature of this gear. The occurrence of youngones of *P. argenteus* has also been recorded earlier from Kotada and Madhwad (Pillay 1948 a) and also its entry into the neighbouring Singhoda estuary (Pillay 1948 b). Gokhale (1960) stated that the average length of fish in *dol* net was lower at Madhwad than in drift net at Veraval. He further reported that 50% of the fish caught in *dol*-net were in the size range of 7.0-7.5" (Gopalan (1967) reported the occurrence of juveniles of *P. argenteus* in the size range of 20-190 mm at Nawabunder in *dol*-net catches. However, no effort was made to assess the magnitude of juvenile fishery in the region.

Though estimated 50.7 and 40.7 tonnes of *P. argenteus* were landed at Nawabunder during 1979-80 and 1980-81, respectively, forming 0.3 to 0.5% of the *dol*-net landings, the abundance of juveniles has been high, particularly in the size range of 20-29 mm to 90-99 mm (84-86.3%). The abundance of young ones in the region of the Saurashtra coast suggests that this area is a nursery ground for *P. argenteus*.

There are 145 units operating at Nawabunder, the total units operating *dol*-net in the region being about 650, landing about 120-150 tonnes of *P. argenteus*. *P. argenteus*, which is considered as one of the best table fish, grows to a size of 210 mm, weighing 300 g. The maximum size recorded in the commercial catch was 311 mm, weighing 1.030 kg. The destruction of such a large number of young ones before attaining marketable size is likely to affect the commercial fishery. While studying the Bombay duck fishery at Nawabunder, Zafar Khan (MS) has observed that the juveniles formed about 95.6% of the catch during Feb.-May and fishing during the period causes great damage to the potential fishery, and suggested the need to conserve the young pomfrets. In the present observation also it has been observed that 80% of the juveniles of silverpomfret landed during Feb.-May in 1980-81. It is felt, therefore, that some restrictive measures be adopted in this region during the period to conserve the juvenile population, lest it affect the potential fishery.

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